

2/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128603

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO 1 G ALLOXAN IN 2N HCL WAS SLOWLY ADDED 3.5 G 1,2,4,5,C SUB6 H SUB2 (NH SUB2) SUB4 SULFATE IN 2N HCL AND THE MIXT. HEATED 0.5 HR TO GIVE 79.5PERCENT 7,8,DIAMINGALLOXAZINE (I), M. LARGER THAN 300DEGREES. THIS (0.1 G) AND 0.6 ML HCG SUB2 H IN 1.5 ML CONCD. HCL AND 3.5 ML H SUB2 O REFLUXED 2 HR AND ADJLSTED WITH NH SUB4 CH TO PH 6-7 GAVE 74PERCENT IMIDAZO(4,5,1)ALLOXAZINE, ISOLATED AS YELLOW HCL SALT, M. LARGER THAN 300DEGREES. I HEATED 6 HR WITH ACCL,ACOH OR AC SUB2 O,ACOH GAVE 68PERCENT 2,METHYLIMIDAZO(4,5,1)ALLOXAZINE (II), ISOLATED AS PERCHLORATE, M. LARGER THAN 300DEGREES, AS RED CRYSTALS; HCL SALT, AMORPHOUS BROWN SOLID. I AND NANO SUB2 IN AQ. HCL GAVE IN 24 HR 82.7PERCENT TRIAZOLE(4,5,1),ALLOXAZINE, M. LARGER THAN 300DEGREES. I IN ME SUB2 SO KEPT 3 HR WITH AC SUB2 O GAVE RED ORANGE 6,ACETAMIDO,7,AMINOALLOXAZINE. THE IMIDAZOALLOXAZINES GAVE YELLOW GREEN FLUORESCENCE IN UV LIGHT. HEUCKEL ANAL. OF ELECTRONIC DISTRIBUTION IN THESE COMPS. WAS MADE AND PLOTS OF ELECTRON D. WERE SHOWN. THE RESULTS INDICATED THAT THE AMINO GROUP IN THE 7 POSITION IS MOST LIKELY TO BE ACYLATED FIRST IN I; THIS WAS CONFIRMED AS SHOWN ABOVE. FACILITY: VSES. NAUCH. ISSLED. VITAMIN. INST., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr.

AP0041857

Abstracting Service:

CHEMICAL ABST.

Ref. Code

UR 0366

89923k Configuration inversion of meso-dibenzylaminosuccinic acid. Mikhno, S. D.; Kulachkina, N. S.; Berezovskii, V. M. (Vses. Nauch.-Issled. Vitamin. Inst., Moscow, USSR). *Zh. Org. Khim.* 1970, 6(1), 81-4 (Russ). The reaction of ClCO_2Et with mesodibenzylaminosuccinic acid (I) in the presence of Na_2CO_3 at -5° gave 5.5:1 mixt. of DL-N-carbethoxydibenzylaminosuccinic acid (II) and bis(N-carbethoxybenzylamino)succinic acid (III). The reaction of SOCl_2 with II gave II anhydride (IV) which was converted by heating at 200° into trans-4,5-dicarboxy-N,N'-dibenzyl-2-imidazolidinone anhydride (V). Heating II or III at 200° also gave V. The hydrolysis of IV gave II. Thus, the inversion of configuration occurs during the reaction of I with ClCO_2Et . The resolution of II with L-(+)-threo-1-(p-nitrophenyl)-2-amino-1,3-propandiol sulfate gave (+)-threo-II analog acid (-)-threo-II analog. The configuration of V was shown by comparison with the known cis-V isomer (U.S. 2,489,232, 1951). Heating V gave trans-4,5-dicarboxy-N,N'-dibenzyl-2-imidazolidinone monobenzamide.

CPJR

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19751738

Acc. Nr. **AP0101487**

Abstracting Service:
CHEMICAL ABST. 6-70

Ref. Code:
4R0029

121502k Synthesis of metallic complexes of decamethyltetra-
dehydrocorrins. Melent'eva, T. A.; Pekel, N. D.; Berezovskii,
V. M. (Vses. Nauch.-Issled. Vitam. Inst., USSR). *Zh. Oshch.
Khim.* 1970, 40(1), 165-71 (Russ). Electronic and NMR spec-
tra were reported for perchlorates of Ni and Co complexes of the
title substance as well as dicyanides of the Co complex. Treat-
ing 20 g 2-carbethoxy-3,4,5-trimethylpyrrole in AcOH with 56 g
Pb(OAc)₂, 3 hr gave 80% 2-carbethoxy-3,4-dimethyl-5-(acetoxy-
methyl)pyrrole, m. 98-100°, which refluxed with alc. HCl 1 hr
gave 36% bis(3,4-dimethyl-5-carbethoxypyrr-2-yl)methane, m.
196-7°, which, heated 3 hr with NaOH in aq. EtOH, gave 35%
in fusible free acid (I). Reaction of HCN with 3,4,5-trimethyl-
pyrrole and hydrolysis gave 63% 2-formyl-3,4,5-trimethyl-
pyrrole, m. 145-6°. This (1.5 g) and 17 g I in MeOH-HBr 20



min gave 90% 1,2,3,7,8,12,13,17,18,19-decamethyl-*ac*-biladiene,
did not m. <250°, which heated with Ni(OAc)₂ and NaOAc in
MeOH 5 min gave a chelate Ni complex, which suspended in
MeOH contg. Ni(OAc)₂ and refluxed with aeration 1 hr gave,

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after addn. of NaClO_4 , 44% perchlorate of Ni complex of 1,2,3,7,8,12,13,17,18,19-decamethyltetrahydrocorrin, violet infusible solid. Similar reaction with $\text{Co}(\text{OAc})_2$ gave the perchlorate of the Co complex, black solid, which with NaCN in hot EtOH gave dicyanide of the Co complex a gray-green solid.

G. M. Kosolapoff

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BS

19851394

USSR

UDC: 547.859 : 577.150.13 : 577.164.12

KHOMUTOVA, YE. D., SHAPIRO, T. A., and BEREZOVSKIY, V. M., All-Union Scientific Research Vitamin Institute, Moscow, Ministry of Health USSR

"Nucleotides, Coenzymes, Phosphoric Esters. XXII. Synthesis of P^1 -(Riboflavin-5')- P^3 -(adenosine-5')triphosphate and P^1 -(Riboflavin-5')- P^4 -(adenosine-5')tetraphosphate"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 2, Feb 70, pp 470-474

Abstract: The authors undertook to synthesize unsymmetrical dinucleoside polyphosphates in the flavin dinucleotide series for purposes of ascertaining the effect of the length of the phosphoanhydride chain connecting the flavin and adenylic parts of the molecule on its ability to recombine with the specific apoenzyme into the corresponding enzyme. P^1 -(Riboflavin-5')- P^3 -(adenosine-5')triphosphate and P^1 -(riboflavin-5')- P^4 -(adenosine-5')tetraphosphate were synthesized from bis-4-morpholine-N,N'-dicyclohexylcarboxamidinium salt of adenosine-5'-diphosphate morpholide and tri-n.-octylammonium salts of riboflavin-

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KHOMUTOVA, YE. D., et al., Zhurnal Obshchey Khimii, Vol 40, No 2,
Feb 70, pp 470-474

5'-mono- and riboflavin-5'-diphosphates respectively. It is shown that an increase in the length of the phosphoanhydride chain in the flavin adenine dinucleotide molecule brings about a decrease in the activity of these compounds as cofactors of D-amino acid oxidase as compared with flavin adenine dinucleotide.

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USSR

B
UDC: 577.150.13; 577.164.11-12

MEL'NIKOVA, L.M., and BEREZOVSKIY, V.M., All-Union Scientific Research Vitamins Institute, Moscow, Ministry of Health USSR

"Nucleotides, Coenzymes, Phosphoric Esters. XXIII. Synthesis of Nicotinamide Adenine Dinucleotide and Analogs -- Flavin Nicotinamide Dinucleotide and Thiamine Nicotinamide Nucleoside Diphosphate"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 918-923

Abstract: Continuing their work on the chemistry of asymmetrically constructed pyrophosphates of the nucleotide coenzyme type, the authors synthesized NAD by condensation of nicotinamide mononucleotide (NMN) with adenosine-5'-phosphomorpholide in a solution of anhydrous dimethyl sulfoxide or in a mixture of anhydrous pyridine and dimethylformamide (2 : 1), as well as by condensation of NMN with adenosine-5'-monophosphate in a trifluoroacetic anhydride medium or in the presence of di-p-tolylcarbodiimide in aqueous pyridine. Thiamine nicotinamide nucleoside diphosphate (TNDP) and flavin nicotinamide dinucleotide (FND) were synthesized by condensation of NMN with thiamine

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MEL'NIKOVA, L. M., and BEREZOVSKIY, V. M., Zhurnal Obshchey Khimii,
Vol 40, No 4, Apr 70, pp 918-923

monophosphate and riboflavin mononucleotide respectively in a medium of aqueous pyridine or trifluoroacetic anhydride. It was found that under conditions which exclude the possibility of recombination with adenosine-5'-monophosphate in tests with yeast alcohol dehydrogenase, FND and TNDP do not possess coenzymatic or inhibitory properties.

1/2 010 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--NUCLEOTIDES, COENZYMES, AND PHOSPHORUS ESTERS. XXIII. SYNTHESIS OF
NICOTINAMIDE ADENINE DINUCLEOTIDE AND ANALOGS FLAVINE NICOTINAMIDE
AUTHOR--(02)--MELNIKOVA, L.M., BEREZOVSKIY, V.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 918-23

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NUCLEOTIDE, COENZYME, CHEMICAL SYNTHESIS, PHOSPHATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605006/F08 STEP NO--UR/0079/70/040/004/0918/0923

CIRC ACCESSION NO--AP0139823

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UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0139823

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER CONDITIONS THAT EXCLUDE THE POSSIBILITY OF RECOMBINATION WITH ADENOSINE 5 PRIME PHOSPHATE, IN TESTS WITH ALC. DEHYDROGENASES, FLAVINE NICOTINAMIDE DINUCLEOTIDE (I) AND THIAMINE N (BETA D RIBOFURANSYL)NICOTINAMIDE 5 PRIME PYROPHOSPHATE (II) DO NOT HAVE ANY COENZYME OR INHIBITOR PROPERTIES. ADENOSINE 5 PRIME PHOSPHATE AND MORPHOLINE, WITH N, N PRIME DICYCLOHEXYLCARBODIMIDE, GAVE ADENOSINE 5 PRIME PHOSPHOROMORPHOLIDE, WHICH WITH N (BETA D RIBOFURANSYL)NICOTINAMIDE 5 PRIME PHOSPHATE (III) IN ME SUB2 SO AND (C SUB8 H SUB17)SUB3 N 3 DAYS GAVE 5PERCENT NAD, ALSO PREPD. IN 8.2PERCENT YIELD FROM III AND ADENOSINE PHOSPHATE WITH DI P TOLYL CARBODIMIDE IN 3 DAYS. III AND THIAMINE MONOPHOSPHATE IN THE PRESENCE OF (CF SUB3 PRIME NEGATIVE CO)SUB2 O 3 DAYS, THEN KEPT 1 DAY IN ET SUB2 O AFTER AVAPN., FOLLOWED BY NH SUB3 IN ABS. ETOH 1 DAY AT 0DEGREES, GAVE P PRIME1 THIAMINE P PRIME1 (N (BETA D RIBOFURANSYL)NICOTINAMIDE) 5 PRIME PYROPHOSPHATE, WHICH HEATED 1 HR WITH CONCD. HCL GAVE NICOTINAMIDE, D RIBOSE AND INORG. PHOSPHATE BESIDES THIAMINE PHOSPHATE. SIMILARLY WAS PREPD. FROM RIBOFLAVINE MONOPHOSPHATE THE P PRIME1 (5 RIBOFLAVINE) P PRIME2 (N (BETA D RIBOFURANSYL)NICOTINAMIDE) 5 PRIME PYROPHOSPHATE OR FLAVINE NICOTINAMIDE DINUCLEOTIDE. REDN. OF NAD AND ITS ANALOGS WAS DONE WITH YEAST ALC. DEHYDROGENASE. FACILITY: VSES. NAUCH. ISSLED. VITAMIN INST., MOSCOW, USSR.

1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--NUCLEOTIDES, COENZYMES, PHOSPHATES. XXII. SYNTHESIS OF P
PRIME1, RIBOFLAVIN, 5, YL, P PRIME3, ADENOSIN, 5, YL, TRIPHOSPHATE AND P
AUTHOR--(03)--KHOMUTOVA, YE.D., SHAPIRO, T.A., BEREZOVSKIY, V.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2), 470-4
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--NUCLEOTIDE, COENZYME, PHOSPHATE, BIOSYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/0596 STEP NO--UR/0079/70/040/002/0470/0474
CIRC ACCESSION NO--AP0117824
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0117824

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADENOSINE 5, PYROPHOSPHATE AND MORPHOLINE GAVE 70PERCENT ADENOSINE 5 PRIME, PYROPHOSPHATE MORPHOLIDE ISOLATED AS THE BIS(4, MORPHOLINE, N, N PRIME, DICYCLOHEXYLCARBOXAMIDINIUM) SALT (I). OCTYLAMINE AND RIBOFLAVINE 5 PRIME, PYROPHOSPHATE IN 24 HR IN AQ. SOLN. GAVE 64.5PERCENT ORANGE RED RIBOFLAVINE 5 PRIME, PYROPHOSPHATE BIS(TRIOCTYLAMMONIUM) SALT (II) AFTER DRYING OVER P SUB2 O SUB5. I AND TRIOCTYLAMMONIUM RIBOFLAVINE 5 PRIME, PHOSPHATE DRIED IN PYRIDINE BY DISTN. OF THE SOLVENT, THEN TREATED WITH PYRIDINE, ME SUB2 NCHO 20 HR AT 50DEGREES AFTER FINAL TREATMENT WITH NACLO SUB3 IN MECH GAVE, P PRIME1, 5 PRIME, RIBOFLAVINE, P PRIME3, 5 PRIME, (ADENOSINE TRIPHOSPHATE), PURIFIED BY SEPHADEX G-25 IN 27.5PERCENT YIELD; THIS HAD 18-20PERCENT ACTIVITY RELATIVE TO NATURAL FAD AS THE COENZYME FOR D, AMINO ACID OXIDASE ACTIVITY. RESULTS ON HYDROLYSIS IN ACID AND ALK. SOLNS. WERE REPORTED. SIMILARLY II WAS USED AS ABOVE IN THE SYNTHESIS OF P PRIME1, 5 PRIME, RIBOFLAVINE, P PRIME4, 5 PRIME, (ADENOSINE TETRAPHOSPHATE). THE RESULT OF HYDROLYSIS WERE REPORTED. LENGTHENING THE PHOSPHATE CHAIN IN SUCH SUBSTANCES LOWERE THEIR ACTIVITY AS COENZYMES. FACILITY: VSES. NAUCH.-ISSLED. VITAM. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.375.82

BEREZOVSKIY, V. V., BYKOVSKIY, Yu. A., and REMIZOV, A. N.

"Parameters of Four-Frequency Carbon Dioxide Transverse-Discharge Laser"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No 2(14), Moscow, "Sov. Radio," 1973, pp 75-77 (English summary) (from RZh-Fizika, No 10, Oct 73, Abstract No 10D873 from authors' abstract)

Translation: A study was made of tuning conditions for the emission of a CO₂ laser in the P and R branches of the vibrational transitions between the 00⁰1-10⁰0 and 00⁰1-02⁰0 levels with wavelengths of 9.3, 9.6, 10.2, and 10.6 microns. The tuning was performed by means of a prism placed in the cavity. The laser emission spectrum was broadened into the short-wave region by means of second harmonic oscillation by tellurium crystals. The corresponding wavelengths of the harmonics: 4.65, 4.8, 5.1, and 5.3 microns. The transformation efficiency in unfocused beams by uncoated crystals was 0.2 percent. Bibliography with six titles.

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USSR

UDC: 621.375.9:535

BEREZOVSKIY, V. V.; BYKOVSKIY, Yu. A.; GONCHAROV, M. I., REZ,
I. S.

"Coefficients of Nonlinear Polarization of Proustite and Tellurium"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(S), 1972,
pp 105-107

Abstract: Measurements are made of the effective coefficients of nonlinear polarization $d_{31} \sin \theta_m + d_{22} \cos \theta_m$ with pumping propagation in the positive crystallographic quadrant, and the coefficient of nonlinear polarization of tellurium d_{11} with regard to the width of the pumping spectrum (10.6 μm). Pumping was done by a CO_2 laser in single-mode operation with Q-switching. The authors thank S. S. Shalyt and I. I. Farbshteyn for furnishing the high-quality tellurium specimens. Bibliography of twelve titles.

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USSR

UDC 621.039.5.001.4

BEREZOVSKIY, V. V., RYKOVSKIY, Yu. A., GRIDIN, V. A., KOKOREV, L. S.,
SHELIGIN, Yu. N.

"Flaw Detection on a Fuel Element Model by Means of a Laser"

V sb. Vopr. teplofiz. yadern. reaktorov (Problems in the Thermal Physics of Nuclear Reactors--collection of works), vyp. 3, Moscow, Atomizdat, 1971, pp 93-100 (from RZh-Elektrotehnika i Energetika, No 9, Sep 71, Abstract No 9U188)

Translation: The authors discuss the use of an infrared CO₂-N₂-He laser with a wavelength of 10.6 μ . The parameters of laser emission enabled focusing on a fairly small area ($\sim 0.001 \text{ mm}^2$), thus improving the resolution of thermal devices. A laser beam with a power of 6 W in the continuous mode was used to detect flaws (pits in the casing and peeling of the fuel in nuclear fuel elements). Peeling in the form of a spot of arbitrary shape with a concentrated heat source is considered. The temperature of the casing rises when the laser beam hits a region where there is peeling. A pickup determines the temperature rise. It is found

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USSR

BEREZOVSKIY, V. V., et al., Vopr. teplofiz. yadern. reaktorov, vyp. 3, Moscow, Atomizdat, 1971, pp 93-100

that an increase in the rate of beam displacement entails an increase in the required power of the source, a rise in maximum temperature and more severe requirements for the time lag of the temperature pickup. Emission from a laser with a power of 1 kW was focused by a field of $3 \cdot 10^5$ W/cm² on an area of $2 \cdot 10^{-3}$ mm². Three illustrations, two tables, bibliography of five titles. A. M. Bovshovskiy.

Masers and Lasers

USSR

UDC 621.039.5.001.4

BEREZOVSKIY, V. V., BYKOVSKIY, YU. A., GRIDIN, V. A., KOKOREV, L. S., SHELAGIN, YU. N.

"Laser Detection of Defects in a Fuel Element Model"

Vopr. teplofiz. yadern. reaktorov -- V sb. (Problems of Thermo-physical Nuclear Reactors -- Collection of Works), vyp. 3, Moscow, Atomizdat Press, 1971, pp 93-100 (from RZh-Teploenergetika, No 9, Sep 71, Abstract No 9U188)

Translation: Utilization of a $\text{CO}_2\text{-N}_2\text{-He}$ gas infrared laser with a wavelength of 10.6 microns is discussed. The parameters of the laser radiation permitted focusing of it on a sufficiently small area ($\sim 0.001 \text{ mm}^2$) and, at the same time, increasing the resolution of the thermal devices. A 6 watt laser beam was used to detect defects (holes in the jacket, exfoliation of the fuel). Exfoliation in the form of a spot of arbitrary shape with a concentrated heat source is investigated. When the laser beam hits the exfoliation region, the jacket temperature rises. The rise in temperature is recorded by a sensor. It is established that with an increase in the beam displacement rate, the necessary power supply increases, the maximum temperature increases, and the requirements on the inertia of the temperature sensor increases. Focusing one kilowatt

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USSR

BEREZOVSKIY, V. V., et al., Vopr. teplofiz. yadern. reaktorov, vyp. 3, Moscow, Atomizdat Press, 1971, pp 93-100

of laser radiation created a field of $3 \cdot 10^5$ watts/cm² over an area of $2 \cdot 10^{-3}$ mm². There are 3 illustrations, 2 tables and a 5-entry bibliography.

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1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--UREA DEPARAFFINATION OF DIESEL FUEL FROM MIXTURES OF HIGHER SULFUR
PETROLEUM OILS BEFORE AND AFTER HYDROREFINING -U-
AUTHOR-(02)-BEREZYUK, F.A., KARAYBOG, YE.V.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKRIM. (MOSCOW) 1970, (31), 42-3
DATE PUBLISHED--70
SUBJECT AREAS--PROPULSION AND FUELS, MATERIALS
TOPIC TAGS--DIESEL FUEL, PETROLEUM REFINING, HYDROREFINING, PETROLEUM
DEWAXING, UREA, LOW TEMPERATURE EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/2080 STEP NO--UR/0318/70/000/003/0042/0043
CIRC ACCESSION NO--AP0127453

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127453

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DIESEL FUEL MIXT. OF HIGH S PETROLEUM OILS, BEFORE AND AFTER HYDROREFINING, WAS VIGOROUSLY MIXED FOR 30 MIN WITH 60-120PERCENT UREA CRYSTALS AT MINUS 45 TO MINUS 50DEGREES IN THE PRESENCE OF 2PERCENT ACTIVATOR (MEDH PLUS 200 WT. PERCENT PETROLEUM NAPHTHA, B. 80-120DEGREES), FOLLOWED BY PRESSURE FILTRATION AND SOLVENT NAPHTHA WASHING OF THE WAX CAKE TO PRODUCE A WINTER GRADE DIESEL FUEL WITH 40PERCENT YIELD. THE YIELD OF PARAFFINS (M. 16-22.5DEGREES) FROM THE UNREFINED OIL CHARGE WAS 12-4.5PERCENT, WHEREAS THE YIELD OF PARAFFINS (M. 19-24DEGREES) FROM THE HYDROREFINED CHARGE WAS 10.4-3.8PERCENT. SEVERAL TOWER TEMP. TREATMENTS OF THE UNREFINED OIL RESULTED IN STILL LOWER YIELDS OF PARAFFINS DUE TO THE INHIBITING ACTION OF THE TARS AND AROMATIC COMPODS. PRESENT IN THE UNREFINED OIL. THESE IMPURITIES ALSO CAUSED AN INDUCTION PERIOD OF 4-5 MIN FOR COMPLEX FORMATION FROM THE UNREFINED OIL, WHEREAS PRACTICALLY NO INDUCTION PERIOD OCCURRED WHEN TREATING THE HYDROFINED OIL. MICROSCOPIC EXAMN. OF THE UREA COMPLEX SHOWED AROUND OR OVAL PARTICLES OF 0.08-0.015 MM DIAM. FROM THE UNREFINED OIL AND 0.09-0.030 MM FROM THE HYDROREFINED OIL. AN INDUSTRIAL APPLICATION OF THE PROCESS IS DESCRIBED, WHERE MIXING IS ACHIEVED BY USE OF VENTURI SCRUBBERS FOR IMPROVED EFFICIENCY.

UNCLASSIFIED

BERG, A. I.

Philosophical
Science

CYBERNETICS -- METHODOLOGICAL PROBLEMS

[Article by Academician A. I. Berg and doctors of Philosophy
Sciences D. V. Nikolayev, V. A. Kuznetsov, and A. G. Sidorov. Moscow,
USSR, 1971. No. 4-5.]

5700 0782
30 180 001
UDC 519.95

Cybernetics and philosophical methodology. The development of the interdisciplinary cybernetic direction has led to a new systematic study of the processes of control and information processing, thereby providing and improving the basis for their connection with them. The science of control and information processing has already gone through the embryonic period in which it was of "purely academic interest" to a narrow circle of the initiated. Today it is becoming a very important factor in the contemporary scientific and technical revolution, exerting a noticeable influence on scientific investigations, on various aspects of social production and its mechanization, on various aspects of information theory, logic, electronics, automation, etc. In turn, it is also putting at the disposal of cybernetics increasingly powerful theoretical and engineering means.

Fundamental discoveries and achievements in the area of cybernetics require thorough philosophical investigations. The role of methodological and philosophical investigations is especially great in the study of the complex character of the processes of control and information processing, and the problems of the connection of the science of control and information processing with the other sciences. The importance of philosophical investigations in cybernetics is also revealed in connection with the fact that the latter cannot be possible without a single conception of the nature of control, systems, in cybernetics, systems, systems and society, tasks which earlier appeared to be very difficult.

Cybernetics has already obtained a number of philosophical and methodological investigations and is turning the corner of discovery has now been shifted to the study of concrete

USSR

UDC 51.330.115(02)

BERG, A. I. (Editor)

"Cybernetics in the Service of Communism. Volume 6: Economic Models. Mathematical Methods of Operations Research. Collection of Articles."

Kibernetiku -- na sluzhbu kommunizmu. T. 6. Ekonomicheskiye Modeli. Matematicheskiye Metody Issledovaniya Operatsiy. Sb. Statey [English Version Above], Moscow, Energiya Press, 1971, 304 pages (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V657 K, unsigned).

Translation: Abstracted article-by-article.

Communications

USSR

UDC: 621.37/.39(076)

BERG, A. I., BRENEV, I. V., YAROTSKIY, A. V.

"Radio Engineering, Electronics and Electrical Communications"

V sb. Mashinostroyeniye. Avtomat. upr. mashinami i sistemami mashin. Radio-tekhn., elektronika i elektrosvyaz' (Machine Building. Automatic Control of Machines and Machine Systems. Radio Engineering, Electronics and Electrical Communications--collection of works), Moscow, "Nauka", 1970, pp 287-427 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A20)

Translation: The authors survey the history of the development of radio and electrical communications, as well as the present state of radio electronics and electrical communications in the Soviet Union. A. K.

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USSR

UDC 621.762.002.5(088.8)

BATIST, A. I., ARTEMIYEV, YE. M., BERG, B. N., SHAKIRZYANOVA, L. G.

"Worm Press for Making Tubular Products from Powders"

USSR Authors' Certificate No 273634, Cl. 49 h, 11; 49i, 16; 31 b³, 3/02,
(B 30 b 9/00, B 22 f 3/00) filed 23 Oct 68, published 14 Sep 70 (from RZh-
Metallurgiya, No 3, Mar 71, Abstract No 3 G474P)

Translation: The worm press contains a frame, charging hopper, drive mechanism, and endless scrow with diminishing depth of thread. In order to press bi-metallic tubular products, the worm press is equipped with a detachable tubular jacket, and the worm is made with a longitudinal axial duct which centers the entering core that shapes the hole in the product to be pressed. One illustration.

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1/2 010 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--COMPARATIVE ANALYSIS OF THE HYDROCARBON COMPOSITION OF FRACTIONS OF
HYDROGENATED GASOLINE OF THERMOCRACKING AND STRAIGHT RUN GASOLINE -U-
AUTHOR--(05)-RISOV, B.YA., MAMAYEVA, K.N., SMIRNOV, N.P., BERG, G.A.,
KOLBIN, M.A.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (6), 59
DATE PUBLISHED-----70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--CHEMICAL ANALYSIS, HYDROCARBON, GASOLINE, THERMOCRACKING,
HYDROGENATION, PETROLEUM CATALYTIC REFORMING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605060/C04 STEP NO--UR/0318/70/000/0C6/0059/0059

CIRC ACCESSION NO--AP0144347

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0144347

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPN. OF THE TITLE FRACTIONS
WAS SIMILAR ENOUGH TO PERMIT THE USE OF THE DEEP HYDROFINED FRACTION OF
THERMOCRACKING AS STOCK FOR CATALYTIC REFORMING. FACILITY:
NOVO-UFIMSK. NPZ, USSR.

UNCLASSIFIED

Acc. Nr:

AP0100576

Abstracting Service:
CHEMICAL ABST. 570

Ref. Code:

UR 0065

104301b Evaluating the activity of an aluminosilicate cracking catalyst. Sokolova, V. I.; Berg, G. A.; Morozov, B. F. (USSR). *Khim. Tekhnol. Topl. Masel* 1970, 15(1), 17-21 (Russ). H as gas-carrier was satd. with isooctane (I) or other raw material, heated, and fed into the reactor contg. 1 g catalyst at 550°C and the reaction products entered a chromatog. column packed with 0.3-0.4 mm firebrick contg. 15% quinoline and analyzed. The catalyst activity was detd. in relation to the amt. of H converted expressed as wt. % yield of the reaction products, detd. 30 min after feeding raw material into the reactor at space velocity 0.04-0.0035 hr⁻¹, remaining const. for another 2 hr. The relation between the conversion of I and activity coeff. of the catalyst was linear. The content of C₃H₆, obtained from secondary reactions, and butylenes as main reaction products depended on the sp. surface of the catalyst also, detg. its selectivity. The relation between the selectivity detd. as above and the ratio of gasoline to coke yields was linear. The method was also used for detg. the effect of various impurities of the raw material and metal impurities of the catalyst on its activity and selectivity. Characteristics of various catalysts and results obtained are tabulated. The app. and exptl. results are graphically presented.

GGJR

REEL/FRAME
19842011

1/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EXTRACTION OF VANADIUM AND MOLYBDENUM FROM TREATED CATALYSTS -U-
AUTHOR-(03)-BERG, G.A., DANILOVA, R.A., DUBININA, G.G.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 263,569
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNANKI 1970;
DATE PUBLISHED--10FEB70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--CHEMICAL PATENT, METAL CATALYST, VANADIUM, MOLYBDENUM,
SOLVENT EXTRACTION, HYDROREFINING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3004/1835 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0132100
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0132100

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. V AND MO ARE EXTD. FROM
HYDROREFINING AND PLATFORMING CATALYSTS BY FIRST TREATING THE CATALYST
WITH H SUB 2 S FOR 2-4 HR AT 300-500DEGREES, LESS THAN OR EQUAL TO 50
ATM GAGE, AND VOL. RATE 50-200 HR MINUS PRIME 1. THEN THE CATALYST IS
TREATED WITH CL FOR 2-4 HR AT 300-500DEGREES, LESS THAN OR EQUAL TO 50
ATM GAGE, AND VOL RATE 50-200 HR MINUS PRIME 1.

UNCLASSIFIED

USSR

UDC 681.327

TSOGOYEV, T. K., and BERG, I. V.

"Method of Manufacturing Matrices"

USSR Author's Certificate No 273282, Filed 27/10/69, Published 14/09/70
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i
Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B290P)

Translation: In a well-known method of manufacturing magnetic multiple-aperture memory element matrices for memory units holes are cut partially through a ferrite plate using a special tool on an ultrasonic machine. Then a layer of material is ground off of the backside of the plate until the holes open clear through. This produces all necessary holes in the plate. After this, the control windings are produced on the plate by photographic printing methods in the form of printed conductors passing through the apertures in the plate. The method of producing memory element matrices based on multiple-aperture ferrite plates has the following defects: impossibility of magnetic isolation of neighboring elements on the multiple-aperture plate, which makes it difficult to increase the density of information and force the switching mode of elements in order to increase speed; difficulty of producing thin multiple-aperture ferrite plates due to their

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USSR

TSOGOYEV, T. K., and BERG, I. V., USSR Author's Certificate No 273282,
Filed 27/10/69, Published 14/09/70 (Translated from Referativnyy Zhurnal
Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971,
Abstract No 5B290P)

low mechanical strength (low plate thickness is necessary in order to decrease the inductance of the control leads on the matrix). The method suggested does not have these shortcomings and allows a matrix to be produced of magnetically isolated memory elements in the form of thin multiple-aperture cores with printed control windings. The purpose of the invention is to increase the density of information and the speed of magnetic memory elements. This is achieved by making notches in the plate in addition to the partial holes. The plate is then glued to a dielectric substrate on the side which carries the holes and slots, and the printed control conductors are applied, after which the opposite side of the plate is ground away until the slots and holes in which the ends of the conductors are located are opened. The ends of the conductors are contacted by printed conductors, forming the control wires passing through the apertures of the memory element plate. 1 fig.

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USSR

UDC 681.32.001

SVERDLOV, A. S., BERG. I. V.

"Parasitic Parameters of a Diode-Magnetic Decoder"

Elektron. Tekhnika. Nauch. - Tekhn. Sb. Microelektronika [Electronic Technology. Scientific-Technical Collection. Microelectronics], No. 5 (26), 1970, pp 90-97. (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 5, 1971, Abstract No. 5b143 by TR).

Translation: One source of noise in the output circuits of memory units is the address current decoder of the magnetic operative memory. This property becomes stronger as accumulators are miniaturized. The mechanism of formation of noise in a diode-magnetic decoder is studied. It is demonstrated on the basis of analysis of the decoder matrix and the parasitic capacitances of its elements that the parasitic parameters of the decoder are described by a set of 6 equivalent capacitances. 4 figs.

1/1

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1/2 021 UNCLASSIFIED PROCESSING DATE--07 OCT 70
TITLE--NATURE OF THE THERMAL EFFECTS OF PRODUCTS OF THE REACTION OF
KAOLINITE WITH SOME BASES -U-
AUTHOR--(03)--BERG, I.G., REMIZNIKOVA, V.I., PRIBYLOV, K.P.
COUNTRY OF INFO--USSR **B**
SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 93-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--KAOLINITE, SODIUM HYDROXIDE, CHEMICAL REACTION, THERMAL
EFFECT, ALUMINUM OXIDE CERAMIC, DEHYDRATION, BARIUM COMPOUND, PHASE
COMPOSITION, HEAT OF REACTION, CALCIUM COMPOUND, HYDROXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1974/1796 STEP NO--UR/0153/70/013/001/0093/0196
CIRC ACCESSION NO--AT0115625
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--02 OCT 70

CIRC ACCESSION NO--AT0115625

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF KAOLINITE (I) WITH NaOH YIELDS A COMPD. IDENTICAL WITH HYDROSODALITE (II), EXHIBITING ENDOTHERMIC EFFECTS AT 126, 260, AND 575DEGREES, AND AN EXOTHERMIC EFFECT AT 987DEGREES (THE LATTER 2 ARE ATTRIBUTED TO I). IF I AND NaOH ARE MIXED IN EQUI MOL. RATIOS, THE I EFFECTS ARE NOT NOTED, AND 1 MOLE OF H SUB 2 O IS LIBERATED, INDICATING THAT THE FORMULA OF II IS NA SUB 2 O TIMES AL SUB 2 O SUB 3 TIMES 2SIO SUB 2 TIMES H SUB 2 O. BY TREATING I WITH KOH, TO FORM A PLASTIC DOUGH, AND FURTHER TREATMENT AT 120-30DEGREES, IT BECOMES AMORPHOUS AND THEN RECRYSTALLIZES TO FORM KALIDPHILITE (III), WHOSE PRESENCE IS CONFIRMED BY X RAY EXAMN. H SUB 2 O IS LIBERATED AT 115DEGREES, 172DEGREES, AND 200DEGREES IN AN AMT. EQUAL TO 0.7 MOLE-MOLE III. BY MIXING A MOLE OF I WITH 2 MOLES BA(OH)SUB 2, MOISTENING WITH H SUB 2 O, AND TREATING AT 125-30DEGREES, A NEW CRYSTN. PHASE IS OBTAINED CORRESPONDING TO BARIUM ALUMINOSILICATE HYDRATE. AN ENDOTHERMIC EFFECT AT 574DEGREES IS ATTRIBUTED TO DEHYDRATION OF I AND FURTHER ENDOTHERMIC EFFECTS ARE ATTRIBUTED TO THE STEPWISE SEPN. OF H SUB 2 O. THE PRODUCT OF TREATING I WITH CA(OH)SUB 2 YIELDS ENDOTHERMIC EFFECTS AT 544-60DEGREES, 582DEGREES, AND 738DEGREES, ATTRIBUTED TO DEHYDRATION OF CA(OH)SUB 2 AND OF I, AND TO HYDRATION OF A QUATERNARY PHASE COMPD.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--QUANTITATIVE RELATIONS OF THE AREAS OF THE PEAKS ON HEATING AND
COOLING CURVES -U-
AUTHOR--(02)-BERG, L.G., YEGUNOV, V.P. **B**
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(6), 1694-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--AMMONIUM CHLORIDE, SODIUM CHLORIDE, PHASE TRANSITION,
TRANSITION TEMPERATURE, SOLUTION CONCENTRATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/1406 STEP NO--UR/0078/70/015/006/1694/1695
CIRC ACCESSION NO--AP0135080
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135080

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DILN. OF NH SUB4 CL SAMPLE WITH AN INERT COMPD., LIKE NA₂CO₃, PRACTICALLY DID NOT CHANGE THE TEMP. OF ITS PHASE TRANSITIONS BUT DECREASED MARKEDLY THE DIFFERENCE OF AREAS UNDER HEATING AND COOLING CURVES REPRESENTING THE DURATION AND THE TEMP. OF THESE TRANSITIONS. FACILITY: KAZAN. GOS. UNIV. IM. UL'YANOVA-LENINA, KAZAN, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THERMAL DECOMPOSITION OF MAGNESIUM NITRATE -U-
AUTHOR--(03)--BERG, L.G., BORUKHOV, I.A., SAIDOVA, M.T.
COUNTRY OF INFO--USSR
SOURCE--UZB. KHIM. ZH. 1970, 14(2), 32-4
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--MAGNESIUM COMPOUND, NITRATE, THERMAL DECOMPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1060 STEP NO--UR/0291/70/014/002/0032/0034
CIRC ACCESSION NO--AP0123053
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--APU123053

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DTA STUDY OF THE THERMAL
DECOMPN. OF HG(ND SUB3) SUB2.6H SUB2 O INDICATES ENDOTHERMAL EFFECTS AT
60, 85-90, 145-50, AND 410-35DEGREES; THERMOGRAVIMETRY INDICATES WT.
LOSSES AT 230, 370, AND 430DEGREES CORRESPONDING TO THE FORMATION OF
HG(ND SUB3) SUB2.2H SUB2 O, HG(ND SUB3) SUB2, AND HGO, RESP.
FACILITY: INST. KHIN., TASHKENT, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--BASES FOR THE CALCULATION OF SPECIFIC HEATS BY A DIFFERENTIAL
THERMAL ANALYSIS METHOD -U-
AUTHOR-(02)-BERG, L.G., YEGUNOV, V.P.
COUNTRY OF INFO--USSR *B*
SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 778-80
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--SPECIFIC HEAT, PHASE TRANSITION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1997/1999 STEP NO--UR/0076/70/044/003/0770/0780
CIRC ACCESSION NO--AP0120642
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--23OCT70

GIRC ACCESSION NO--AP0120642

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SP. HEAT (C SUB0) OF SUBSTANCES CHARACTERIZED BY PHASE TRANSITION OF UNKNOWN HEAT EFFECT CAN BE DETD. BY USING THE METHOD OF AN INTERNAL STD. AN INTERNAL STD. HAVING A PHASE TRANSITION CAN BE EMPLOYED ALSO IN THE CASE WHEN THE STUDIED SUBSTANCE ITSELF DOES NOT HAVE ANY TRANSITION IN THE CORRESPONDING TEMP. REGION. THE SP. HEAT AND PHASE TRANSITION HEAT EFFECT OF KNO SUB3 WAS DETD. WITH THE USE OF AL SUB2 O SUB3 AS AN INTERNAL STD., WITH AN ACCURACY CHARACTERIZED BY A MEAN QUADRAIT DEVIATION, SIGMA SMALLER THAN OR EQUAL TO 2.18PERCENT. FACILITY: KAZAN. GOS. UNIV. IM. UL'YANOVA-LENINA, KAZAN, USSR.

UNCLASSIFIED

USSR

UDC 621.791.042

BERG, T. V., Engineer

"New Special-Purpose Electrodes"

Moscow, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 54-55

Abstract: The Moscow Experimental Welding Plant has developed several new types of special-purpose electrodes. This article presents brief descriptions of the electrodes, which have passed industrial testing. The OZL-21 electrodes are recommended for welding equipment of nickel-chrome-moly corrosion-resistant alloys (such as Hastelloy S) to be used in acetic acid and other corrosive media. The OZL-25 electrodes are recommended for welding thin-sheet structures (8 mm or less) and heating elements of the KhN78T alloy. Type MNCH-2 electrodes are recommended for the correction of casting defects, and for surfacing of parts of gray, malleable, and high-strength cast iron without heating. OZR-1 electrodes are recommended for cutting and piercing of products of steel (including stainless steel), cast iron, and copper, and OZI-3 electrodes are recommended to replace type OZI-1 electrodes for reinforcement surfacing of hot- and cold-deformed metals, cutting tools, and fast-wearing machine parts.

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USSR

UDC 542.91 + 547.42 +661.718.1

MOLOTKOVSKIY, Yul. G., KOZHUKHOV, V. I., and BERGEL'SON, L. D., Institute of Natural Products Chemistry, Academy of Sciences USSR

"Synthesis of Phosphatidic Diols"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 71, pp 194-196

Abstract: The synthesis of phosphatidic diols (I) is based on the condensation of the silver salt of benzyl-(1-lauroyl-2-oleoyl-sn-glycerol) phosphate with trityl ethers of glycol iodohydrines. Removal of the benzyl group from the thiophosphates with sodium iodide in acetone followed by removal of the trityl group by acid hydrolysis yielded 1-lauroyl-2-oleoyl-sn-glycerol-3-phosphorylethylene glycol, 1-lauroyl-2-oleoyl-sn-glycerol-3-phosphorylpropanediol, and 1-lauroyl-2-oleoyl-sn-glycerol-3-phosphorylbutanediol. The phosphatidic diols obtained are soluble in most common organic solvents and can be stored in the form of calcium salts.

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USSR

UDC 669.15-194.003.1

ROYTBURD, L. N., IVANOV, I. N., and BERGAUZ, G. V.

"The Usefulness of Electroslag Remelting in the National Economy"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 4(82)
Jul-Aug 73, pp 66-68

Abstract: Results are presented of an investigation of the economic impact of the introduction of the electroslag remelting (ESR) process. The economic effect is seen as the algebraic sum of expenditures for the production and utilization of the metal. The use of electroslag metal in the production of responsible bearings reduces waste in metal processing and prolongs the life of bearings by a factor of 2-3 and results in an economy of up to 5319 rubles/ton. The economy resulting from introducing EI961 heat-resistant steel in the production of compressor disks is 1849 rubles/ton. The introduction of 40KhNFA steel for the production of longerons produces savings of 6200 rubles/ton, while the introduction of 1Kh17N2 stainless steel for production of turbine blades results in savings of 13,250 rubles/ton.

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1/2 030

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--LUBRICANT FOR THE COLD AND HOT WORKING OF METALS -U-

AUTHOR--(05)--BERGELSON, L.D., DYATLOVITSKAYA, E.V., GRESHNYKH, K.P.,
GILZIN, N.A., GRAMIN, I.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,351

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--METALWORKING LUBRICANT, COLD WORKING, HOT WORKING, CHEMICAL
PATENT, LUBRICANT ADDITIVE, PETROLEUM PRODUCT, HYDROGENATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3003/1801

STEP NO--UK/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0130634

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0130634

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THE TITLE LUBRICANT IS PREPD. BY MICROBIOLOGICAL TRANSFORMATION OF A PARAFFIN CONTG. PETROLDEUM PRODUCT, HYDROGENATION OF THE RESULTING PRODUCT, DEODORIZATION, AND MIXING WITH ADDITIVES. FACILITY: INSTITUTE OF CHEMISTRY OF NATURAL COMPOUNDS, ACADEMY OF SCIENCES, U.S.S.R.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--GLYCOLIPID FROM STREPTOMYCES -U-
AUTHOR-(03)-BERGELSON, L.D., BATRAKOV, S.G., PILIPENKO, T.V.
COUNTRY OF INFO--USSR
SOURCE--CHEM. PHYS. LIPIDS 1970, 4(2), 181-90
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--STREPTOMYCES, LIPID, GLYCERIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0456 STEP NO--NE/0000/70/004/002/0181/0190
CIRC ACCESSION NO--AP0132671
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132671

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE CELL LIPIOS OF STREPTOMYCES
LA 7017 TWO UNUSUAL GLYCOLIPIDS WERE DETECTED. ONE OF THEM WAS ISOLATED
IN A PURE STATE AND SHOWN TO BE
1,0, (4,0, (ALPHA, D, GLYCOPYRANOSYL), ALPHA, D, (2, OR 3,0, ACYL)
GALACTURONOSYL), 2,3, DIGLYCERIDE. FACILITY: INST. CHEM. NAT.
COMPO., MOSCOW, USSR.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DIOL LIPIDS. XIII. SYNTHESIS OF COIXENOLIDE, THE DIOL LIPID FROM
COIX LACRYMA SEEDS -U-
AUTHOR-(03)-VAVER, V.A., PROKAZOVA, N.V., BERGELSON, L.D.
COUNTRY OF INFO--USSR
SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(2), 170-3
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROCESSED PLANT PRODUCT, LIPID, VEGETABLE OIL, ESTER, CHEMICAL
SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605002/D01 STEP NO--UR/0393/70/006/002/0170/0173
CIRC ACCESSION NO--AP0139445
UNCLASSIFIED

2/2 007 .

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139445

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. COIXENOLIDE (II), A MIXED ESTER OF

CIS,9,HEXADECENOIC (PALMITOLEINIC) ACID (II) AND TRANS,11,OCTADECENOIC

(VACCENIC) ACID (III) WITH 2,3,BUTANE,DIOL, ISOLATED BEFORE FROM C.

LACRYMA-JOBI SEEDS, WAS SYNTHESIZED. THE ISOMERIZATION OF 1.5 G

CIS,ME(CH SUB2) SUB5 CH:CH(CH SUB2) SUB9 CO SUB2 ME WAS CARRIED OUT BY

HEATING 2 HR AT 200DEGREES WITH 0.1 G SE UNDER N, TO GIVE 0.45 G ME

ESTER OF III, SAPOND. TO GIVE 0.4 G III, M. 40-2DEGREES. THE ACID

CHLORIDE OF II (PREPD. FROM II AND OXALYL CHLORIDE) WAS TREATED WITH

2,3,BUTANEDIOL IN ETHER IN THE PRESENCE OF PYRIDINE AT 0DEGREES TO GIVE

405.PERCENT 2,(CIS,9,HEXADECENOYLOXY),3,BUTANEDIOL (IV), N PRIME20 SUBD

1.4650, D PRIME20 0.9049. SIMILARLY, IV AND THE ACID CHLORIDE OF III

GAVE 48.4PERCENT I, N PRIME20 SUBD 1.4594, D PRIME20 0.8945. OVER ADAMS

CATALYST IN N HEPTANE, I WAS HYDROGENATED TO TETRAHYDROCOIXENOLIDE, M.

54-5.5DEGREES. FACILITY: INST. KHIM. PRIR. SOEDIN., MOSCOW,

USSR.

UNCLASSIFIED

USSR

UDC: 621.396.96:681.142.5

AVDEYEV, V. V. and BERGEL'SON, M. N.

"Technical Realization of Final Radar Station Devices"

Kiev, Izvestiya VUZ SSSR--Radioelektronika, No 6, 1972, pp 712-716

Abstract: Noting that the practical realization of digital systems for processing radar information presents many problems that have as yet not been fully solved, the authors consider devices for detecting and estimating target azimuth. The method to be used by these devices is that of maximum probability in binary amplitude quantization of the radar pulse signals scanning through a single angular coordinate, the azimuth, in a symmetrical beam with constant velocity. The distance to the target is considered known. The authors begin their analysis by considering an algorithm in accordance with which the device for detection and estimation of the target and its azimuth in binary weight processing of the signals should act. This algorithm is rewritten in the form of two equations for the weighted sum, representing the measured azimuth, and the block diagram of a digital device for realizing this rewritten algorithm and computing the target azimuth is shown. The authors note that the device is made of standard digital elements and can easily be readjusted for changes in azimuth detection and computation criteria. A variation of this device is also shown.

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USSR

UDC 615.835.3

BURAKOVSKIY, V. I., BOKERIYA, L. A., and BERGEL'SON, M. N., Institute of Cardiovascular Surgery imeni A. N. Bakulev, Academy of Medical Sciences USSR, Moscow

"Hyperbaric Oxygenation Principles of Use. Indications. Regimes"

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, Vol 15, No 3, May/Jun 70, pp 52-62

Abstract: Available data on hyperbaric oxygenation in hypoxia and cardiovascular surgery are reviewed. Application of hyperbaric oxygenation in cardiovascular surgery is considered from two points of view: 1) the possibility of application in combination with hypothermia for temporary exclusion of the heart from circulation, and 2) use in surgery of congenital heart defects of the blue type. In 38 experiments conducted on dogs at the Institute imeni Bakulev, hyperbaric oxygenation was applied for 60-80 min in a pressure chamber at an air pressure of 3.5 atm, while the body temperature was lowered to 16-20°C by using artificial circulation bypassing the heart. Artificial respiration was used. Circulation was interrupted for 60 min. Hypothermia eliminated hyperbaric vascular spasms. Fibrillation of the ventricles during restoration of cardiac activity was stopped by injection of 1-1.5 g KCl in solution. As shown by the EEG, the brain activity was not impaired. Hyperbaric oxygenation was also applied in experiments on dogs in which a blue

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USSR

BURAKOVSKIY, V. I., et al., Eksperimental'naya Khirurgiya i Anesteziologiya, Vol 15, No 3, May/Jun 70, pp 52-62

defect was artificially created by establishing a venous-arterial shunt. The principles of hyperbaric oxygenation by increasing air pressure are well known; the problem is determining the optimum conditions for its application. A differential equation is proposed by means of which the O_2 concentration in arterial and venous blood under various conditions of hyperbaric oxygenation can be determined in relation to the body weight, per minute volume of the blood, arterio-venous difference, and the size of the right-to-left shunt.

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1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--HYPERBARIC OXYGENATION -U-
AUTHOR--(03)-BURAKOVSKIY, V.I., BOKERIYA, L.A., BERGELSON, M.N.
COUNTRY OF INFO--USSR
SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIYA, 1970, NR 3, PP
52-62
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HYPERBARIC SURGERY, HEART SURGERY, OXYGEN METABOLISM,
MATHEMATIC MODEL
CENTRCL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0917 STEP NO--UR/0481/70/000/003/0052/0062
CIRC ACCESSION NO--AP0126576
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126576

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER IS DEVOTED TO THE PRESENT DAY DATA OF HYPERBARIC OXYGENATION. PRINCIPLES, INDICATIONS AND OPTIMUM REGIMES OF THE METHOD IN CARDIO VASCULAR SURGERY ARE GIVEN. HYPERBARIC OXYGENATION IN CARDIO SURGERY IS CONSIDERED IN TWO SEPARATE PROBLEMS: 1) COMBINED USE OF HYPERBARIC OXYGENATION AND DEEP HYPOTHERMIA, 2) POSSIBILITIES OF USE OF HYPERBARIC OXYGENATION IN THE SURGERY OF CONGENITAL HEART DEFECTS OF THE BLUE TYPE. COMBINED USE OF HYPOTHERMIA AND HYPERBARIC OXYGENATION PERMITS TO INCREASE THE EFFECT OF EACH SINGLE FACTOR. INDICATIONS FOR DEEP HYPOTHERMIA ARE THUS INCREASED. TO STUDY THE EFFECT OF HYPERBARIC OXYGENATION IN UNCORRECTED HYPOXIA IN ANIMALS CARDIAC DEFECT OF THE BLUE TYPE WAS CREATED ARTIFICIALLY. DATA OBTAINED PERMITTED TO ELICIT THE MAIN TRENDS OF OXYGEN SATURATION. A NEW MATHEMATICAL MODEL OF SATURATION UNDER HIGH PRESSURE WAS SUGGESTED. PRACTICAL RECOMMENDATIONS AS TO CHANGES IN THE ACID BASE BALANCE UNDER HIGH OXYGEN TENSION WITH THE RIGHT TO LEFT SHUNT ARE GIVEN. FACILITY: INSTITUT SERDECHNO SOSUDISTOY KHIRURGII IM. A. N. BAKULEVA, AMN SSSR, MOSKVA.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--CLINICO ELECTROENCEPHALOGRAPHIC PARALLELS IN EPILEPTIFORM
SYNDROMES, DUE TO SEVERE CHRONIC ALCOHOLIC INTOXICATION -U-
AUTHOR-(02)-BERGELSON, N.M., RAYKHINSTEYN, V.KH.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970,
VOL 70, NR 5, PP 731-736
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ELECTROENCEPHALOGRAPHY, EPILEPSY, ALCOHOL, ENCEPHALITIS,
BRAIN, CEREBRAL CORTEX

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1124

STEP NO--UR/0246/70/070/005/0731/0736

CIRC ACCESSION NO--AP0115143

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115143

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS ANALYZE THE CLINICAL AND EEG DATA IN 40 PATIENTS WITH CHRONIC ALCOHOLISM AND EPILEPTIFORM SYNDROMES AND IN 10 ALCOHOLICS WITHOUT SEIZURES. IT WAS POSSIBLE TO ESTABLISH 3 MAIN TYPES OF EEG CHANGES: 1) RELATED TO TOXIC ENCEPHALITIS; 2) REFLECTING THE DYSFUNCTION OF DEEP MIDDLE BRAIN STRUCTURES; 3) CORTICAL FOCI IRRITATION. THE LATTER TYPE OF CHANGES WAS SEEN ONLY IN PATIENTS WITH CONVULSIVE SEIZURES. THE 2 FORMER GROUPS WERE CHARACTERIZED BY PATIENTS WITH ALCOHOLISM IN GENERAL. FACILITY: KAFEDRA PSIKHIATRII NOVOSIBIRSK MEDITSINSKOGO INSTITUTA AND OTDEL FIZIOLOGII. FACILITY: NOVOSIBIRSK N I INSTITUTA TRAVMATOLOGII I ORTOPEDII.

UNCLASSIFIED

Ion Exchange

USSR

UDC 546.04;546.62'33

TOMILOV, N. P., BERGIN, A. S., GRANKINA, V. I., POROSHINA, I. A.

"Ion-Exchange Properties of Sodium Hydroalumocarbonate"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSR -- Seriya
Khimicheskikh Nauk, No 1, 1973, pp 88-92

Abstract: The results are presented from a study of the equilibrium distribution of cations (Na^+ and Ag^+) and the kinetics of the exchange process between sodium hydroalumocarbonate and AgNO_3 solutions. The cation-exchange isotherm was determined at 25°C for $\text{Na}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 2\text{CO}_2 \cdot 3\text{H}_2\text{O}$ and a mixture of sodium nitrate and silver nitrate solutions. With the ion fraction of silver in the equilibrium liquid phases equal to or greater than 0.1, the degree of substitution of Ag^+ for Na^+ in the equilibrium solid phases is 97-99.5%. The phases with variable Na^+ and Ag^+ content are members of a continuous series of solid solutions between the sodium and silver forms of hydroalumocarbonate. The limiting stage of the exchange is diffusion of the Na^+ and Ag^+ ions in the solid phase. The mutual diffusion coefficient of the indicated ions determined on the basis of the kinetic measurements $\bar{D}_{\text{Na,Ag}} = 5.7 \cdot 10^{-6} \text{ cm}^2/\text{sec}$ agrees satisfactorily with the calculated value of $5.1 \cdot 10^{-6} \text{ cm}^2/\text{sec}$.

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1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SYNTHESIS AND SOME PROPERTIES OF HYDROGALLOCARBONATES OF SODIUM AND
POTASSIUM -U-
AUTHOR--(05)-TCMILOV, N.P., BERGER, A.S., VORSINA, I.A., POROSHINA, I.A.,
MERKULOV, A.G. **B**
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA
KHIMICHESKIKH NAUK, 1970, NR 2, PP 87-95
DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CARBONATE, SODIUM COMPOUND, POTASSIUM COMPOUND, X RAY
ANALYSIS, IR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/0584

STEP NO--UR/0289/70/000/000/0087/0095

CIRC ACCESSION NO--AP0113475

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0113475

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDROGALLOCARBONATES OF SODIUM AND POTASSIUM $\text{Na SUB2 O.GA SUB2 O SUB3. 2 CU SUB2.4H SUB2 O AND K SUB2 O.GA SUB2 O SUB3.2CO SUB2.3H SUB2 O}$ WERE PREPARED FROM THE SOLUTION MIXTURE OF GALLATES AND BICARBONATES OF SODIUM AND POTASSIUM RESPECTIVELY. THE PHYSICO CHEMICAL CHARACTERISTICS OF THESE SUBSTANCES SUCH AS THE REFRACTION OF LIGHT, SPECIFIC GRAVITY, DIMENSIONS OF CELLS WERE DETERMINED. THE PROCESS OF THERMAL DECOMPOSITION OF SODIUM AND POTASSIUM HYDROGALLOCARBONATES WAS STUDIED UNDER STATIC AND DYNAMIC CONDITIONS OF HEATING AND UNDER HIGH TEMPERATURE X RAY ANALYSIS. SOME PECULIARITIES OF IR SPECTRA OF OBTAINED COMPOUNDS WERE ALSO DISCUSSED.

FACILITY: INSTITUT FIZIKO-KHIMICHESKIKH OSNOV PERERABOTKI MINERAL'NOGO SYR'YA SO AN SSSR, NOVOSIBIRSK.

UNCLASSIFIED

USSR

UDC 615.472:616.12-008.1-78

BELILOVSKIY, M. A., BERGER, I. I., FROLKIN, O. A., STETSIN, A. A., TROFIMOVA, G. N., and GUSMAN, V. Ye., All Union Scientific Research Institute for Medical Instrumentation, Moscow

"The Biopulse-2, an Apparatus for Auxiliary Blood Circulation"

Moscow, Meditsinskaya Tekhnika, No 4, 1971, pp 14-19

Abstract: The Biopulse-2 is an electromagnetic pump with bioelectric control designed to provide auxiliary blood circulation in different kinds of cardiac insufficiency in order to relieve the heart and increase the venous blood flow. The apparatus consists of a cardiac biopotential amplifier, control unit, power amplifier, motor with a pump, and power supply. The biopotential amplifier collects and processes biological information. The control unit regulates the pulsating current. The power amplifier boosts the pulsating current of low-power electrical energy while the electromagnetic motor with a diaphragm pump head transforms the electrical energy into mechanical energy to move the blood.

1/1

USSR

UDC: 621.372.85

BERGER, M. N.

"Thermal Computation of High-Power UHF Ferrite Devices"

Elektron. tekhnika. Nauchno-tekhn. sb. Ferrit. tekhn. (Electronic Engineering, Scientific-Technical Collection, Ferrite Techniques)
1970, No. 4(26), pp 39-44 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3B172)

Translation: The effect on the temperature of a ferrite plate in attaching it to the cooled wall of a waveguide in a high power device is determined. Resume

1/1

- 151 -

USSR

UDC: 621.372.8:621.315.61

BERGER, M. N., KAPILEVICH, B. Yu., Active Members of the Scientific and Technical Society of Radio Engineering, Electronics and Communications

"Use of Ceramic Heat-Transfer Dielectrics in Ferrite Microwave Devices"

Moscow, Radiotekhnika, Vol. 26, No 5, May 71, pp 79-83

Abstract: This paper discusses the effect which filling a waveguide with beryllium oxide has on the electrodynamic parameters of a microwave device (losses, phase shift, etc.) as well as the thermal conditions of ferrite plates when beryllium oxide is used. The use of beryllium oxide in a discrete ferrite phase shifter is considered by way of example. Analysis shows the effectiveness of using heat-transfer ceramic dielectric in high-power microwave devices. The average operating power of a ferrite device can be considerably increased with no change in electrical characteristics when a heat-transfer dielectric is used.

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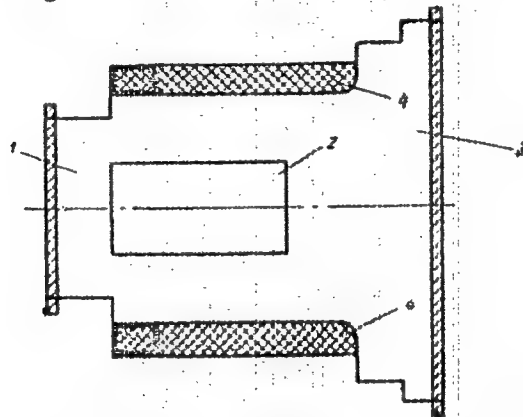
AA0043316

UR 0482

Soviet Inventions Illustrated, Section II Electrical. Derwent,

242249 WIDEBAND DOUBLE THREE-WAY COUPLING for a rectangular waveguide in which the space between double walls is filled with dielectric to the full height of the waveguide. This construction increases the working bandwidth.

2/70



4.9.67 as 1181771/26-9. M. N. BERGER. (23.9.69.) Bul 15/25.
4.69. Class 21a⁴. Int. Cl. H 01 p.

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19761527

UNCLASSIFIED

PROCESSING DATE--30OCT70

1/2 022
TITLE--AGE SPECIFIC DIFFERENCES OF THE CATALASE ACTIVITY AND CONCENTRATION
HEMOLYSED BLOOD PROTEIN IN PATIENTS WITH A SEVERE COURSE OF BRONCHIAL
AUTHOR--(04)-BULATOV, P.K., KOMOV, V.P., MAKSIDOVA, A.O., BERGER, R.G.

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 5, PP 78-80

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RESPIRATORY SYSTEM DISEASE, BLOOD CHEMISTRY, HEMOLYSIS,
CATALASE, BIOLOGIC AGING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/0474

STEP NO--UR/0504/70/042/005/0078/0080

CIRC ACCESSION NO--AP0121148

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121148

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE AUTHORS STUDIED THE ACTIVITY OF CATALASE AND PROTEIN CONCENTRATION OF HEMOLYSED BLOOD IN PATIENTS WITH A SEVERE COURSE OF BRONCHIAL ASTHMA. THERE WAS SEEN A SHARP FLUCTUATION IN THE ENZYMIC ACTIVITY AND PROTEIN CONCENTRATION DEPENDING UPON THE PHASE OF THE DISEASE AND THE PATIENT'S AGE. THE AUTHORS ASSUME THAT THE CHANGES OF THE CATALASE ACTIVITY ARE CAUSED ON THE ONE HAND BY A GENERAL PATHOLOGY OF TISSUE RESPIRATION AND ON THE OTHER ONE BY CERTAIN COMPENSATORY FUNCTIONS OF THE ORGANISM.

FACILITY: KAFEDRA POSITAL'NOY TERAPII I LENINGRAD. MEDITSINSKOGO INSTITUTA IM. I. P. PAVLOVA. FACILITY: KAFEDRA BIOKHIMII LENINGRAD. KHIMIKO-FARMATSEVTICHESKOGO INSTITUTA.

UNCLASSIFIED

AA0040706

BERGER V.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3/70

235239 SYNTHETIC FIBRES with improved dyeability and other properties are produced by spinning into a coagulating bath a solution containing a polymer mixt. which comprises a sulphonated copolymer(s) of styrene and its derivs. containing 1-15% (by weight of the copolymer) of sulphur in the form of sulphonate groups. The sulphonated copolymer may be dissolved separately from other polymers; subsequently, both solutions are mixed together. In an example, 98 parts of polyacrylonitrile and 2 parts of sulphonated styrene-acrylonitrile copolymer (the ratio styrene acrylonitrile being 7:3, and the sulphur content

AUTHORS: Peters, W.; Khartig, Z.; Meissner, V.; Rudolf, H.; and Berger, W. 7

19750339

AA0040706.

4.8%) were dissolved together in dimethylformamide at 70°C (for 2 hrs.). The resulting 16% soln. was spun into a 50:50 dimethylformamide - water coagulating bath at 15-16°C. The resulting fibres were stretched in two steps at 98-100°C the total stretching ratio was 1:6. The fibres had a strength of 2.86 g/d. elongation 21%, and a good dyeability. 26.7.67. as 1175317/23-5, PETERS, W. et al. (Priority: 22.8.66. East Germ. 119415) (26.5.69) Bul. 5/16.1.69. Class 29b, Int. Cl. D 01f.

19750340

BERGER, V. I.

JPRS 54884
4 May 1972

UDC 556.21(237.1+798)

BASIC FEATURES IN METALLOGENY OF NORTHEASTERN PART OF PACIFIC
BELT (NORTHWEST CORILLIERS AND ALASKA)

Article by V.I. Berger and M.I. Itskason; Moscow, Sovetskaya Geologiya,
Ruslan, No. 1, 1972, pp. 90-104

One of the most effective methods for predicting the ore-bearing regions is the technique of analogies based on comparative metallogenic analysis. From this viewpoint, it is feasible to examine the features in the metallogenic development of the territory (outstanding in respect to its mineral resources) of Alaska and the Canadian Corilliers in the light of regional-metallogenic concepts of the Soviet metallogenic school of thought. An analysis conducted on this territory—an important link in the Pacific metallogenic belt noted by S.S. Shainov [7]—will permit us to focus our attention on certain ideas which can be utilized in predicting the ore-bearing regions in the East of the USSR.

At the basis of the article, we have placed literary sources and a map of British Columbia, Alaska and the Yukon Territory. We have also used numerous reports on individual types and groups of endogenic deposits. Published in recent years (11, 12, 13, 14, 16, 17, 18). Uniquely valuable material has been generalized in the collection "Tectonic History and Mineral Deposits of the Western Corilliers" (Gardair, White, Ray, Armstrong and others) [25].

Based on analyzing all the published data, we have compiled a tectonic-metallogenic and other charts which are included in the present report.

The geological basis for these graphic presentations has been provided by the "Geologic Map of North America" to a scale of 1:5,000,000 published by the U.S. Geologic Survey in 1965 and compiled at the Institute of Arctic Geology; "Geologic Chart of Alaska, Alaskan Islands and Northwestern Part of Canada" on a scale of

[1 - USSR - E]

-1-

I/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--POTASSIUM OXIDE PHOSPHORUS PENTOXIDE BORON OXIDE SYSTEM -U-

AUTHOR--(02)-BERGMAN, A.G., MIKHALKOVICH, L.N.

COUNTRY OF INFO--USSR *B*

SOURCE--ZH. NEORG. KHIM. 1970, 15(6), 1677-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, BORON OXIDE, PHOSPHOROUS OXIDE, POTASSIUM
OXIDE, GLASS COMPOSITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1394

STEP NO--UR/0078/70/015/006/1677/1679

CIRC ACCESSION NO--AP0135068

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0135068
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN INCOMPLETE PHASE DIAGRAM OF THE
K SUB2 O-P SUB2 O SUB5 -B SUB2 O SUB3 SYSTEM IS CONSTRUCTED. COMPN. AND
M.P. OF 4 EUTECTICS AND 4 PERITECTIC COMPN. OF THE SYSTEM ARE
TABULATED. THE STUDY REVEALS THAT, IN THIS SYSTEM, P SUB2 O SUB5 TIES
TO OBTAIN THE ENERGETICALLY MOST CONVENIENT COORDINATION, WHICH IS
REALIZED AS THE PO SUB4 PRIME3NEGATIVE ION. THE REGIONS OF GLASS
FORMATION ARE DETD. FACILITY: ROSTOV.-NA-DONU INZH.-STROIT.
INST., ROSTOV-ON-DON, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--TERNARY SYSTEMS OF SODIUM META AND PYROPHOSPHATES WITH TUNGSTEN AND
MOLYBDENUM OXIDES -U-
AUTHOR-(02)-BERGMAN, A.G., SEMENYAKOVA, L.V.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1386-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHASE DIAGRAM, MOLYBDENUM OXIDE, TUNGSTEN COMPOUND, SODIUM
PHOSPHATE, SODIUM OXIDE, PHOSPHOROUS OXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/1413 STEP NO--UR/0078/70/015/005/1386/1389
CIRC ACCESSION NO--AP0135087
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135087

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. PARTIAL TRIGONAL PHASE DIAGRAMS OF X-NO SUB3 -MOO SUB3 SYSTEMS, WHERE X IS NAPO SUB3 OR NA SUB4 P SUB2 O SUB7 ARE CONSTRUCTED. THE SYSTEMS FORM NA SUB2 O.P SUB2 O SUB5 .2WO SUB3 AND NA SUB2 O.P SUB2 O SUB5 .2MOO SUB3, WHICH WERE SHOWN TO BE INDIVIDUAL COMPOS., BY X RAY ANAL. FACILITY: ROSTOV.-NA-DOONU INZH.-STROIT. INST., ROSTOV-ON-DON, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--LI PRIMEPOSITIVE, NA PRIMEPOSITIVE PARALLEL TO PD SUB3
PRIMENEGATIVE, BD SUB2 PRIMENEGATIVE SYSTEM -U-
AUTHOR-(02)-BERGMAN, A.G., MIKHAILOVICH, L.N.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1390-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--METASTABLE STATE, PHASE DIAGRAM, BORATE, PHOSPHOROUS COMPOUND,
LITHIUM COMPOUND, SODIUM COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/1412 STEP NO--UR/0078/70/015/005/1390/1393
CIRC ACCESSION NO--AP0135086
UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0135086
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METASTABLE SYSTEM OF LI
PRIMEPOSITIVE, NA PRIMEPOSITIVE PARALLEL TO PO SUB3 PRIMEPOSITIVE, BO
SUB2 PRIMENEGATIVE IS DETD. AND ITS PHASE DIAGRAMS ARE CONSTRUCTED.
FORMATION OF LI ORTHOPHOSPHATE PREVAILS IN THIS SYSTEM WHICH IS A CROSS
SECTION OF THE QUATERNARY LI SUB2 O MINUS NA SUB2 O MINUS P SUB2 O SUB5
MINUS B SUB2 O SUB3 SYSTEM. FACILITY: ROSTOV.-NA-DONU
INZH.-STROIT. INST., ROSTOV-ON-DON, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--POTASSIUM METAPHOSPHATE,POTASSIUM PYROPHOSPHATE,POTASSIUM
METAVANADATE TERNARY SYSTEM -U-
AUTHOR-(02)-BERGMAN, A.G., SANZHAROVA, Z.I. **B**
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1139-40
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHOSPHATE, VANADATE, POTASSIUM COMPOUND, EUTECTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1119 STEP NO--UR/0078/70/015/004/1139/1140
CIRC ACCESSION NO--AP0123111
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123111

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BINARY SYSTEMS KVO SUB3-K SUB4
P SUB2 O SUB7 AND KVO SUB3-KPO SUB3 FORM THE CORRESPONDING COMPOS. 3KVO
SUB3 .2K SUB4 P SUB2 O SUB7, INCONGRUENTLY M. 518DEGREES, AND KVO SUB3
.KPO SUB3 AND 2KVO SUB3 .KPO SUB3 CONGRUENTLY M. 488DEGREES AND
478DEGREES, RESP. THE 1ST SYSTEM FORMS A EUTECTIC AT 77.5 MOLE PERCENT
KVO SUB3 AND 464DEGREES AND THE 2ND SYSTEM FORMS 2 EUTECTICS, AT 42.5
AND 60 MOLE PERCENT KVO SUB3 AND 428 AND 426DEGREES, RESP. THE PHASE
DIAGRAM OF THE TERNARY SYSTEM IS PRESENTED. THE SYSTEM HAS 3 EUTECTICS
M. 400, 410, AND 420DEGREES AND CONTG. KVO SUB3 .KPO SUB3 MOLE PERCENT
RATIO 37-46, 53-35.5, AND 64-25, RESP. INVARIANT POINTS OF THE TERNARY
SYSTEM ARE TABULATED. FACILITY: ROSTOV, INZH.-STROIT. INST.,
ROSTOV, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--LI SUB2 CL SUB2 NA SUB2 CL SUB2 K SUB2 CL SUB2 LI SUB2 SO SUB4
QUATERNARY SYSTEM -U-
AUTHOR--(03)-AKOPOV, YE.K., KOROBKA, YE.I., BERGMAN, A.G.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1351-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHASE DIAGRAM, LITHIUM CHLORIDE, SODIUM CHLORIDE, POTASSIUM
CHLORIDE, SULFATE, CRYSTALLIZATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/1402 STEP NO--UR/0078/70/015/005/1351/1353
CIRC ACCESSION NO--AP0135076
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135076

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CRYST. FIELD OF THE INCONGRUENTLY MELTING $\text{LiCl} \cdot 2\text{NaCl}$ WAS DETD. AND PRESENTED ON A 3 DIMENSIONAL PHASE DIAGRAM OF THE TITLE SYSTEM. CRYSTN. DIAGRAMS OF THE SURFACES OF $\text{Li SUB2 Cl SUB2 Li SUB2 SO SUB4 (0.7 Na SUB2 Cl SUB2 PLUS 0.3K SUB2 Cl SUB2)}$ AND $\text{Li SUB2 Cl SUB2, Li SUB2 SO SUB4 (0.58 Na SUB2 Cl SUB2 PLUS 0.42 K SUB2 Cl SUB2)}$ WERE DETD. AND THEIR DIAGRAMS ARE GIVEN.

FACILITY: KRASNODAR. POLITEKH. INST., KRASNODAR, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SODIUM, CALCIUM MAGNITUDE OF SULFATE, METAPHOSPHATE SYSTEM -U-
AUTHOR--(C4)--BERGMAN, A.G., VYSOTSKIY, V.M., GASANALIYEV, A.M., TRUNIN,
A.S.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 917-19
DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, SOLID SOLUTION, MULTICOMPONENT CHEMICAL
MIXTURE, SODIUM COMPOUND, CALCIUM COMPOUND, PHOSPHATE, SULFATE, EUTECTIC
MIXTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1718

STEP NO--UR/0078/70/015/003/0817/0819

CIRC ACCESSION NO--AP0115547

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0115547

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PROJECTION OF THE PHASE DIAGRAM OF NA, CA MAGNITUDE OF SO SUB4, PO SUB3 WAS CONSTRUCTED. THIS IS A NONDIAGONAL IRREVERSIBLE RECIPROCAL SYSTEM, HAVING 3 EUTECTICS AT 715, 610, AND 571 DEGREES AND 2 POINTS OF SOLID SOLN. DECOMPN. AT 800 AND 700 DEGREES. IN THE PRESENCE OF A 3RD COMPONENT, THE SOLID SOLNS. OF NA AND CA SULFATES DECOMP. BY A COMPLEX REACTION.

UNCLASSIFIED

Acc. Nr: **AP0055704**

Ref. Code: **UR0422**

PRIMARY SOURCE: Standarty i Kachestvo, 1970, Nr **2**,
pp **60 - 61**

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Standards Protect Man Against Harmful Vibrations.
V. K. Zhitomirskiy and I. V. Bergman: "Stan-
darty i kachestvo", 1970, No. 2.

The article discusses GOST 13.731-68 *Vibration, me-
chanical: General Specification of Measuring Methods*.
The standard became effective in 1969.

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REEL/FRAME

19841013

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Oncology

USSR

BERGOL'TS, V., Doctor of Medical Sciences, Professor

"In Search of the Causative Agent of Disease"

Moscow, Nauka i Zhizn', No 9, Sep 70, pp 55-58

Abstract: A review is presented of research being conducted in the search for the agents of two forms of malignant neoplasms leukoses and sarcomas. Particular attention is devoted to the theory of the viral etiology of these diseases in man. The discovery of virus-induced leukoses in hens in 1908 and of sarcomas in 1911 prompted the development of worldwide research activities seeking to establish a definite connection between the presence of the viruses in human tissues affected by leukosis and sarcoma and the development of these diseases. The first experimental data pointing to the possibility of a virus being the causative agent of sarcomas in man were obtained in the Soviet Union in 1954, at the Laboratory of Academician L. M. Shabad of the Academy of Medical Sciences USSR, who established that filtrates of human sarcomatous tissues may induce the disease in experimental animals. The possibility of inducing sarcomas in animals by injections of filtrates obtained from sarcomatous human tissue was confirmed by experiments carried out by A. Ageyenko at the Laboratory of Professor

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USSR

BERGOL'TS, V., Nauka i Zhizn', No 9, Sep 70, pp 55-58

V. Gorodilova at the Moscow Institute of Oncology imeni Mertsen and investigations conducted by the American Scientists D. Morton and his associates. Other experiments conducted at the Laboratory formerly headed by L. A. Zil'ber at the Moscow Institute of Oncology established the presence of non-cellular viria elements in human leukosis tissue. V. A. Lapin, a corresponding member of the Academy of Medical Sciences USSR working in the same institute, was able to induce leukosis-like diseases in primates by injecting filtrates obtained from human leukosis tissue into the animals. Using an electron microscope, Academician A. D. Timofeyevskiy and his associates at the Moscow Institute of Oncology detected virus-like bodies in human sarcomatous and leukosis tissues. It has thus been established that characteristic viruses are found in human tissues affected with leukoses and sarcomas. However, there is no absolute proof that these viruses definitely induce the development of the diseases. To clarify the role played by the viruses in inducing diseases in man, intensive studies are now being conducted in some zones of tropical Africa, where leukoses and sarcomas are encountered in children.

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B
BERGOL'TS, V., M.D., Professor, Moscow Oncology Institute imeni P. A. Hertzen

"Has the Culprit Been Found?"

Moscow, Pravda, 22 Jan 70, p 6

Abstract: In response to readers' requests, the professor stated that viruses found in many malignancies are not contagious. In 1908-1911, Rous transmitted leukemia (leucosis) and sarcoma, both virus diseases, from diseased to healthy chickens. More than 20 varieties of virus responsible for leucosis and sarcoma in birds, mice, rats, and other animals are presently known. The virus is not very virulent, and may remain in the body for its entire life. Only in some definite disturbances of the organism and an increase in virus can disease be produced. There now is a vaccine which effectively prevents the development of leucosis in birds and mice. This is hopeful for similar control in man.

The first data on experiments with virus in the USSR appeared in medical literature in 1954. Filtrates from tissues of diseased
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BERGOL'TS, V., et al., Moscow, Pravda, 22 Jan 70, p 6

animals had produced sarcoma in healthy species. It was shown that these malignancies were activations of their own dormant virus, which was substantiated in the USA. The American researcher Morton showed the presence of antibodies which can neutralize antigens in sarcoma patients. Thus, virus in sarcoma has been found. But, is it the truly causative agent or merely a passenger? While much is not yet clear, there is a hopeful view for the future.

2/2

- 25 -

Acc. Nr: **AP0051971**

B Ref. Code: **UR 6219**

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i
Meditsiny, 1970, Vol **69**, Nr **3**, pp **97-100**

VIRAL HEMANGIOMATOSIS OF MICE

~~V. M. Bergolia~~

Moscow P. A. Guertzen Oncological Institute

The paper describes a viral hemangiomatosis transplantable by cellular and acellular material on mice of CC57BR strain. This virus is, apparently, not identical with viruses of mice leukemia, viral sarcoma of Moloney and polyoma.

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BERIASHVILI, D. I.

morphology

Article by D. I. Beriashvili, Institute of Human Morphology, USSR Academy of Medical Sciences, Moscow, USSR, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 10, 1971, pp 48-52]

NEONATE RATS
MORPHOLOGY

UDC: 611.814.33-018-019:589.323.4-052.31

SO: JPRS: 54539
25 NOV 71

As we know, the anterior lobe of the hypophysis begins to function long before birth. There are a few reports about its ultrastructure in prenatal ontogeny (Dubols, Andersen et al.; Sano and Sasaki), but we failed to find any research dealing with investigation of the distinctive features in the ultrastructure of the cells of the anterior pituitary lobe of neonate rats in the literature available to us. For this reason, there was a need to make an in-depth investigation of the submicroscopic distinctions of the anterior pituitary lobe of neonate animals to enable us to assess with greater reliability the mechanisms of hormone synthesis and pituitary secretion.

The pituitaries of 16 neonate albino mongrel rats, of both sexes, served as the experimental material. It was fixed with glutaraldehyde then with osmium tetroxide. After conventional dehydration, the anterior pituitary lobe was imbedded in a mixture of araldite and epon by the method of Hollenhauer.

We had previously observed (1970) that in essence the submicroscopic structure of the anterior hypophyseal lobe of neonate rats is the same as that of adult animals. Yet, there are several submicroscopic distinctions in the adenohypophysis of the neonate. All of the cellular elements inherent to the adult adenohypophysis are represented. The somatotrophic cells (Figure 1) are large and oval or slightly elongated. Their nuclei present irregular outlines. In them, chromatin is evenly distributed with negligible margination. Golgi's complex and the endoplasmic reticulum are rather well developed. They are arranged in the form of tubes along the nucleolemma. There are many mitochondria that are round, with a moderately electron dense matrix. They are 0.2-0.3 micron in size. The cellular cytoplasm contains many electron dense round secretory granules varying in size from 200 to 300 millimicrons. There are more granules in the peripheral part of the cytoplasm; many of them become less electron dense near the plasma membrane. In the cytoplasm there are free ribosomes; polyosomes are also encountered. Quite often multivesicular corpuscles

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UDC 535.36

BERIDZE, D. K., DZHOBABA, G. R.

"Investigating Multiple Scattering of Light"

Leningrad, Optika i Spektroskopiya, Vol 31, No 5, 1971, pp 788-795

Abstract: This article is the continuation of an earlier paper by the same authors in the same journal (28, 1970, p 504). The earlier paper represented research into the scattering of light in polystyrol latexes, in which data was obtained on the dependence of the multiple dispersed light intensity on the depth of the dispersing medium. The present article discusses the results of the experiments described in the first, which showed that if a parallel beam of light is normally incident on the base of a cylinder made of the dispersing material, the intensity of the scattered light dies away exponentially as a function of the depth. In the present article, the physical significance of one of the factors in the exponent, the attenuation factor of the repeatedly scattered light, is examined. A method is also proposed for the separate determination of σ and α , the coefficients of light scattering and absorption respectively, which requires no new equipment except for a modification of the ordinary spectrophotometer.

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UDC 535

BERIDZE, D. K.

"Investigation of the Scattering of Light in the Critical Region of Separation of Solutions"

V sb. Sovrem. probl. fiz. khimii (Modern Problems of Chemical Physics -- Collection of Works), Vol. 5, Moscow, Moscow University, 1970, pp 323-357 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D929)

Translation: Studies concerning the measurement of extinction and the polar scattering diagram in the region of critical opalescence of separating solutions are surveyed. Particular attention is given to accounting for multiple scattering and to obtaining the correlation parameters with the introduction of the appropriate corrections. 73 ref. V. Z.

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1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--CRITICAL OPALESCENCE IN A N, AMYL ALCOHOL, NITROMETHANE SOLUTION -U-
AUTHOR--(04)--ANISIMOV, M.A., MUTTIK, G.G., BERIDZE, D.K., SHAKHPARONOV,
M.I.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM 1970, 44(1) 34-8 *B*
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--NITROMETHANE, ALCOHOL, LIGHT SCATTERING

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/0497 STEP NO--UR/0076/70/044/001/0034/0038
CIRC ACCESSION NO--AP0107102
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107102

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LIGHT SCATTERING WAS STUDIED OF THE SYSTEM C SUB5 H SUB11 OHMENO SUB2 IN THE VICINITY OF THE CRIT. POINT WITH INCIDENT LIGHT OF 4050, 4360, 5460, AND 5780 ANGSTROM. THE RELATIVE SCATTERING INTENSITY AND THE DEGREE OF DEPOLARIZATION ARE STUDIED WITH 14 SCATTERING ANGLES BETWEEN 30 AND 140DEGREES. BECAUSE OF ALMOST IDENTICAL NS OF THE COMPONENTS, THE CRIT. OPALESCENCE IS NOT VERY STRONG, AND MULTIPLE SCATTERING DOES NOT INTEFERE WITH THE MEASUREMENTS. THE THERMOSTATING WAS REALIZED WITH AN ACCURACY OF PLUS OR MINUS 5 TIMES 10 PRIME NEGATIVE4 DEGREES.

UNCLASSIFIED

1/2 023 UNCLASSIFIED
TITLE--MULTIPLE LIGHT SCATTERING. I -U-

PROCESSING DATE--30OCT70

AUTHOR--(02)-DZHOBABA, G.R., BERIDZE, D.K.

B

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(3),504-12

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--LIGHT SCATTERING, MULTIPLE SCATTERING, POLYSTYRENE RESIN,
OPTIC MEASUREMENT, LATEX

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1996/1434

STEP NO--UR/0051/70/028/003/0504/0512

CIRC ACCESSION NO--AP0118423

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118423

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LIGHT SCATTERING IN POLYSTYRENE LATEXES OF A BROAD RANGE OF CONCNS. AND THE RELATION BETWEEN THE LIGHT SCATTERING INTENSITY AND THE SCATTERING MEDIUM DEPTH WERE STUDIED. THE LENGTHWISE AXIS OF THE CYLINDRICAL SCATTERING MEDIUM DIFFUSED THE EXCITING LIGHT (SCATTERING ANGLE 90DEGREES). THE COEFF. OF WEAKENING OF THE MULTIPLY SCATTERED LIGHT, THE SCATTERING COEFF., THE CUVETTE DIAM. WERE INTERRELATED. A NEW METHOD, ALLOWING SCATTERING COEFF. MEASUREMENTS AT 2-50 CM PRIME NEGATIVE1, IS PROPOSED FOR DETG. THE SCATTERING COEFFS. OF HIGHLY SCATTERING MEDIA.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--CRITICAL OPALESCENCE IN AN N,AMYL ALCOHOL NITROMETHANE SOLUTION.
II. DEGREE OF DEPOLARIZATION -U-
AUTHOR-(02)-ANISIMOV, M.A., BERIDZE, D.K. *B*
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 617-20
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CRITICAL POINT, ALCOHOL, NITROMETHANE, LIGHT SCATTERING,
DEPOLARIZATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/1400 STEP NO--UR/0076/70/044/003/0617/0620
CIRC ACCESSION NO--AP0116847
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116847

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. AN ANOMALOUS INCREASE OF THE
90DEGREES DEPOLARIZATION OF SCATTERED LIGHT FROM A CRIT. MIXT. OF C SUB5
H SUB11 OH-MENU SUB2 ABOVE THE CRIT. TEMP. WAS OBSD. FACILITY:
KHIM. FAK., MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CRITICAL OPALESCENCE IN AN N-AMYL ALCOHOL NITROMETHANE SOLUTION.
II. ANALYSIS AND DISCUSSION OF THE RESULTS -U-
AUTHOR-(02)-ANISIMOV, M.A., BERIDZE, D.K.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 426-30
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--NITROMETHANE, ALIPHATIC ALCOHOL, CHEMICAL ANALYSIS, OPTIC
PROPERTY, LIGHT SCATTERING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/2174 STEP NO--UR/0076/70/044/002/0426/0430
CIRC ACCESSION NO--AP0125754
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125754

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CRIT. OPALESCENCE IN AMYL ALC. MEND SUB2 IS DISCUSSED. THE ORNSTEIN ZERNICKE DEBYE THEORY SATISFACTORILY DESCRIBES THE ANGULAR DISTRIBUTION OF THE INTENSITY OF VISIBLE LIGHT SCATTERING FOR ANGLES BETWEEN 30 AND 140 DEGREES, AND AT TEMPS. (T) DIFFERING FROM THE CRIT. TEMP. (T SUBC) BY SMALLER THAN OR EQUAL TO (4-5) TIMES 10 PRIME NEGATIVE 3 DEGREES. CLOSE TO THE CRIT. POINT THE CALCD. VALUES OF THE RADIUS OF DIRECT AND INDIRECT INTERMOLECULAR INTERACTION IS 12 PLUS OR MINUS 2 ANGSTROM AND 3000-4000 ANGSTROM, RESP. AT (T-T SUBC) SMALLER THAN OR EQUAL TO 0.04 DEGREES, THE DERIV. OF THE CHEM. POTENTIAL WITH RESPECT TO THE COMPN. SINULET MU-SINULET X DEPENDS LINEARLY ON (T-T SUBC), WHICH CAN BE EXPLAINED BY USING THE CLASSICAL THEORY OF THE CRIT. POINT. THE DEVIATION FROM LINEARITY AT (T-T SUBC) LARGER THAN 0.04 DEGREES CAN BE ATTRIBUTED EITHER TO THE INFLUENCE OF NONLINEAR TERMS IN THE EXPRESSION OF SINULET MU-SINULET X, OR TO THE PRESENCE OF IMPURITIES. FACILITY: KHIM. FAK., MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--THERMAL STABILITY OF AROMATIC POLYESTERS -U-
AUTHOR--KORSHAK, V.V., VINOGRADOVA, S.V., DANILOV, V.G., BERIDZE, L.A.,
SALAZKIN, S.N.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN. SER B 1970, 12(2), 129-32
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--THERMAL STABILITY, POLYESTER RESIN, CONDENSATION REACTION,
CHLORIDE, POLYNUCLEAR HYDROCARBON, PHENOL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/0227 STEP NO--UR/0460/70/012/002/0129/0132
CIRC ACCESSION NO--AP0106883
UNCLASSIFIED

2/2 011
CIRC ACCESSION NO--AP0106883

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DTA CURVES OF POLYESTERS PREPD. BY CONDENSING PHENOLPHTHALEIN WITH 1 EQUIV. OF SEBACOYL CHLORIDE, ISOPHTHALOYL CHLORIDE, 4,4PRIME,BIPHENYLDICARBONYL CHLORIDE, OR TEREPHTHALOYL CHLORIDE (I), AND BY CONDENSING I WITH 9,9,BIS(4-HYDROXYPHENYL)FLUORENE, 10,10,BIS(4, HYDROXYPHENYL),ANTHRONE, 2,2,BIS(4, HYDROXYPHENYL)ACENAPHTHELENONE, OR BISPHENOL A (II), SHOWED THAT THE COMPS. WERE STABLE. SMALLER THAN OR EQUAL TO 460DEGREES IN HE. AT 350-60DEGREES THE WT. LOSS IN HE WAS 2-3PERCENT. THE WT. LOSSES IN HE AT 900DEGREES WERE SMALLER THAN OR EQUAL TO 50PERCENT FOR THE POLYESTERS WITH THE EXCEPTION OF THOSE CONTG. II.

UNCLASSIFIED

1/2 013
TITLE--POLYARYLATES -U- UNCLASSIFIED PROCESSING DATE--30OCT70
AUTHOR--(04)--KORSHAK, V.V., VINOGRADOVA, S.V., SALAZKIN, S.N., BEAIDIE,
L.A.
COUNTRY OF INFO--USSR
SOURCE--USSR 263,140
REFERENCE--OTKRYTIYA, IZJEBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--04FEB70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--POLYARYL-RESIN, CHEMICAL PATENT, POLYCONDENSATION, PHENOL,
LACTONE, TEREPHTHALIC ACID
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1473 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0128872
UNCLASSIFIED